

Abstract of the disclosure

The present invention is a cooling plate including a groove, which becomes a passage of a coolant, inside a body, wherein one or more fins are provided inside the groove, wherein the groove is covered with a lid having width larger than the groove, wherein the lid is joined to the body by friction stir welding, and wherein a weld bead formed by the joining is outside the passage, and the weld bead formed by the joining is formed within the body and further, is characterized by a manufacturing method of a cooling plate that has a first groove, which becomes a passage of a coolant, and a second groove, which has width larger than the first groove and receives a lid on the first groove, inside a body, receives the lid on the second groove, and is joined to the body, the manufacturing method of a cooling plate wherein, while the lid and the body are joined together by the friction stir welding owing to insertion of a rotation tool having a shoulder and a pin, the joining is performed so that a weld bead formed by the joining may become out of the passage, and furthermore, is characterized in that a target for sputtering is joined to the cooling plate.